

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Tod M. Woolf

Title:

IMPROVED ANTISENSE

OLIGOMERS

Appl. No.:

10/624,447

Filing Date: 07/21/2003

Examiner:

J.J. Zara

Art Unit:

1635

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner for Patents, PO Box 1450, Alexandria, Virginia 22313-1450, on the date below.

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56

Commissioner for Patents PO Box 1450 Alexandria, Virginia 22313-1450

Sir:

Applicant submits herewith a listing of the documents cited by or submitted to the U.S. PTO in parent application Serial No. 09/295,189, filed 04/20/1999. As provided in 37 CFR §1.98(d), copies of the documents are not being provided since they were previously submitted to the United States Patent & Trademark Office in the above-identified parent application.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicant does not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a prima facie art reference against the claims of the present application.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(b), before the mailing date of the first Office Action on the merits.

RELEVANCE OF EACH DOCUMENT

All of the documents are in English.

Applicant respectfully requests that any listed document be considered by the Examiner and be made of record in the present application and that an initialed copy all forms be returned in accordance with MPEP §609.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 CFR §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 50-0872. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 50-0872.

Respectfully submitted,

Date

210 tuch 2003

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Attorney for Applicant Registration No. 40,893

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U.S. PATENT DOCUMENTS

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TRADEMA		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	AA	5,594,121	1/97	Froeher et al.	536	23.5	
	AB	5,830,653	11/98	Froehler et al.	435	6	
	AC	5,777,153	7/98	Lin et al.	560	158	
	AD	5,955,589	9/99	Cook, et al.	536	23.1	
			1			_1	

OTHERS (including Author, Title, Date, Pertinent Pages, Etc.)

	OTHERS (including Author, Title, Date, Pertinent Pages, Etc.)												
AE	Dean, Nicholas M. and Griffey, Richard H. (1997) "Identification and Characterization of Second-Generation Antisense Oligonucleotides" Antisense & Nucleic Acid Drug Development Vol. 7 pp. 229-233;												
AF	Escude, Christophe et al. (1996) "Stable Triple Helices Formed by Oligonucleotide N3' → P5' Phosphoramidates Inhibit Transcription Elongation" Proc. Natl. Acad. Sci. USA, Vol. 93, pp. 4365-4369;												
AG	Escude, Christophe et al. (1998) "Rational Design of a Triple Helix-Specific Interacalating Ligand" Proc. Natl. Acad. Sci. USA, Vol. 95, pp. 3591-3596;												
AH	Flanagan, W. Michael et al. (1999) "A Cytosine Analog That Confers Enhanced Potency To Antisense Oligonucleotides" Proc. Natl. Acad. Sci. USA, Vol. 96, pp. 3513-3518;												
Al	Helene, Claude and Thuong, Nguyen T. (1989) "Control of Gene Expression by Oligonucleotides Covalently Linked to Intercalating Agents" Genome, Vol. 31, pp. 413-421;												
A.	Giovannangeli, Carne and Helene, Claude (1997) "Progress In Developments of Triplex-Based Strategies" Antisense & Nucleic Acid Drug Development, Vol. 7, pp. 413-421;												
AK	Gutierrez, Arondl J. et al. (1997) "Antisense Gene Inhibition by C-5-Substituted Deoxyuridine-Containing Oligodeoxynucleotides" Bicohemistry, Vol. 36, pp. 743-748;												
AL	Hoke, Glenn D. et al. (1991) "Effects of Phosphorothioate Capping On Antisense Oligonucleotide Stability, Hybridization and Antiviral Efficacy Versus Herpes Simplex Virus Infection" Nucleic Acids Research, Vol. 19, No. 20 pp. 5743-5748;												
AM	Jarvis, Thale C. et al. (1996) "Optimizing The Cell Efficacy of Syntheitc Ribozymes" The Journal of Biological Chemistry, vol. 271, No. 46, pp. 29107-29112;												
AN	Kukreti, Shrikant et al. (1997) "Extension of the Range of DNA Sequences Available For Triple Helix Formation: Stabilization of Mismatched Triplexes By Acridine-Containing Oligonucleotides", Nucleic Acids Research, Vol. 25, No. 21 pp. 4264-4270;												
AO	Lacoste, Jerome et al. (1997) "Triple Helix Formation With Purine-Rich Phosphorothioate-Containing Oligonucleotides Covalently Linked To an Acridine Derivatve" Nucleic Acids Research, Vol. 25. No. 10 pp. 1991-1998;												
AP	Lewis, Jason G. et al. (1996) "A Serum-Resistant Cytofectin For Cellular Delivery of Antisense Oligodeoxynucleotides And Plasmid DNA" Proc. Natl. Acad. Sci. USA, Vol 93, pp. 3176-3181;												
AQ	Marchand, Christophe et al. (1996) "Stabilization of Triple Helical DNA by A Benzopyridoquinoxaline Intercalator" Biochemistry, Vol. 35, pp. 5022-5032;												
Examiner	Date Considered												
*EXAMINER:	Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.												

APPLICANT F REV 7-80	ACSIMIL	E OF FORM PTO-1449	J.S. DEPARTMENT O	F COMMERCE	ATTY DOCKET NO.		SERIAL NO					
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	88				ed Activity of an An							
l			in Kinase C-α b ol. 24, No. 3, pp		poration of 2'-O-Pro	pyl Modific	ations" Nucle	eic Acid				
	ВC		F. et al. (1993) "Current Concepts In Antisense Drug Design" Journal of Med									
		Chemistry, vo	ol. 36, No. 14 pp	o. 1924 <b>-</b> 193	37;							
	BD		tney et al. (1995) "Site and Mechanism of Antisense Inhibition By C-5 Propynedes" biochemistry, Vol. 34, pp. 5044-5053;									
	8E					نغم مامیری در د	doo \Aliab love	T				
			lavio J. et al. (1992) "Antisense Effect of Oligodeoxynucleotides With Inverted Terrotideic Linkages: A Minimal Modification Protecting Against Nucleolytic Degradation									
					Vol. 2, pp. 129-146			09.440				
	BF				tisense Oligonucleo	tides As Tr	erapeutic Ag	gents -				
	8G				1, pp. 1004-1012;							
					ense Gene Inhibitio ), pp. 1510-1513;	n by Oligon	ucleotides C	ontaini				
	вн				nt and Selective Inh	ibition of G	ene Express	ion By				
		Antisense He	ptanucleotide"	Nature Biot	technology, Vol. 14,	pp. 840-84	4;					
	Ві	Wilson, David	d. W. et al. (199	3) "DNA Tr	iple-Helix Specific II	ntercalators	As Antigene	e Enhar				
		Uniused Aroi	natic Cations" E	siocnemistr	y, Vol. 32, pp. 1061	4-10621;						
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	C2 C3	WO 95/18139 WO 98/13526	7/1995 4/1998	PCT				ļ						
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	C4				te, Pertinent Page Applied Antisense		lectide Tech	nology (	Stein					
		C.A. & Krieg,	A.M. eds.,	, Wiley-Liss, New	York, 1998) pp. 73	3-107			OtCiri					
	C5		n et al. "2'-O-Propargyl Oligoribonucleotides: Synthesis and Hybridisation" 54(22):5899-914 (May 28, 1998)											
	C6	Prochiantz, A	Alain "Getting hydrophilic compounds into cells: lessons from homeopeptides" <i>Curr. trobiol.</i> 6(5):629-34 (Oct. 1996)											
		Opin. In Iveur	00101. 0(3)	.029-34 (OCI. 199	0)		<del> </del>							
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